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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,182	05/31/2001	Kenneth A. Lefler	E20010090	9983

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ABB Automatic Inc.
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EXAMINER

BHATNAGAR, ANAND P

ART UNIT PAPER NUMBER

2623

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/871,182

Applicant(s)

LEFLER ET AL.

Examiner

Anand Bhatnagar

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 11-17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claims 1, 2, and 3 are objected to because of the following informalities:
These claims contain substeps labeled with small Roman numerals iv, v, and vi without having any substeps labeled as i, ii, and iii. Further, claim one has a step labeled as small (a) but it is not followed by another step labeled as (b).
Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Gur et al. (U.S. patent 5,627,907).

Regarding claim 1: Gur et al. discloses a method for analyzing an image comprising (fig. 1 elements 1, 2, and 9 and col. 1 lines 7-10) the steps of:

- (a) dividing a reference image into (
 - (iv) one or more detection cells collectively comprising a detection zone in which a statistically significant change in

one or more predetermined features in said reference image is expected to occur (fig. 4A elements S2,S6, and S7, fig. 8 element S810, col. 5 lines 38-52, col. 6 lines 1-10, col. 9 lines 15-21, col. 16 lines 28-50, and col. 18 lines 27-35, wherein the image is segmented and abnormal regions are segmented by forming blobs made up of abnormal blobs and false positive blobs. The abnormal blobs are read as detection cell(s) because they are areas in an image that show up as statistically significantly changes in an image); (v) one or more veto cells collectively comprising a veto zone in which any detection in said veto zone of a statistically significant change in one or more predetermined features in said reference image is used to disable any detection of a statistically significant change in one or more predetermined features in said reference image in said detection zone (fig. 4A elements S2,S6, and S7, fig. 8 element S810, col. 5 lines 38-52, col. 6 lines 1-10, col. 9 lines 15-21, col. 16 lines 28-50, and col. 18 lines 27-35, wherein the image is segmented and abnormal regions are segmented by forming blobs made up of abnormal blobs and false positive blobs. These false positive blobs are noise and are segmented as such so that they do not register as significant changes as the

abnormal blobs, i.e. "detection cells." These noise blobs are read as veto cells since these blobs are significant changes in the images but are segmented so that they do not register as abnormal blobs, i.e. "detection cells" or and read as disabling a zone from being a detection zone); and
(vi) zero or more ignore cells collectively comprising an ignore zone in which no computation is performed (fig. 4A elements S2,S6, and S7, fig. 8 element S810, col. 5 lines 38-52, col. 6 lines 1-10, col. 9 lines 15-21, col. 16 lines 28-50, and col. 18 lines 27-35, wherein the image is segmented and abnormal regions are segmented by forming blobs made up of abnormal blobs and false positive blobs. The areas outside these two types of blobs in the image is read as the ignore cells).

Regarding claims 2 and 3: It is rejected for the same reason as claim 1 above and for the following limitation of: using a reference image to position analysis cells in said image (col. 5 lines 33-36 and 57-60 wherein top view layers are used to determine the abnormal blobs).

Regarding claim 4: The method further comprising the step of digitizing said divided reference image into an array of pixels having a predetermined format (fig. 1 elements 1, 2, 3, and 7-9 wherein the original image is digitized in a specific format of the system wherein the computer,

element #2, can store/read/analyze the images programmed for a specific format.

Regarding claim 5. The method further comprising the step of identifying all of the pixels associated with each of said one or more detection cells other than pixels associated with an ignore cell contained within a detection cell (col. 16 lines 28-51, wherein all the pixels/blobs are labeled and identified as being part of the blobs "detection cells" or not).

Regarding claims 6: The method further comprising the step of calculating from the amplitude of all of said pixels identified with each of said one or more detection cells values for one or more features for each of said one or more detection cells (col. 9 lines 63-67, wherein the intensity values of the pixels of the blobs is obtained and analyzed. These intensity values are read as the amplitudes).

Regarding claim 7: The method further comprising the step of comparing said values calculated for said one or more features for each of said one or more detection cells with a predetermined criteria for each of said one of more features and identifying each of said one or more detection cells in which said calculated value exceeds said predetermined criteria for each of said one or more features (col. 9 lines 63-67 and col. 10 lines 9-14 and 49-63).

Regarding claim 8: The method further comprising the steps of determining the total number of said identified one or more detection cells,

and responsive to said total number exceeding a predetermined threshold, setting a status of said detection zone to a first predetermined status (col. 1 lines 6-10, col. 9 lines 63-67, and col. 10 lines 9-14 and 49-63, wherein the blobs are labeled as microcalcifications and/or masses after there features of the blobs are determined. This is read as a first and second predetermined status.).

Regarding claim 9: The method of Claim 8 further comprising the step of responsive to said determined total number of said identified one or more detection cells not exceeding said predetermined threshold, setting said detection zone status to a second predetermined status (col. 1 lines 6-10, col. 9 lines 63-67, and col. 10 lines 9-14 and 49-63, wherein the blobs are labeled as microcalcifications and/or masses after there features of the blobs are determined. This is read as a first and second predetermined status.).

Regarding claim 10: The method further comprising the step of responsive to said detection zone status having said second predetermined status, setting an image status to a first predetermined status (col. 1 lines 6-10, col. 9 lines 63-67, and col. 10 lines 9-14 and 49-63, wherein the blobs are labeled as microcalcifications and/or masses after there features of the blobs are determined. This is read as a first and second predetermined status.).

Regarding claims 18-20: They are rejected for the same reason as claim 8 above.

Allowable Subject Matter

3. Claims 11-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

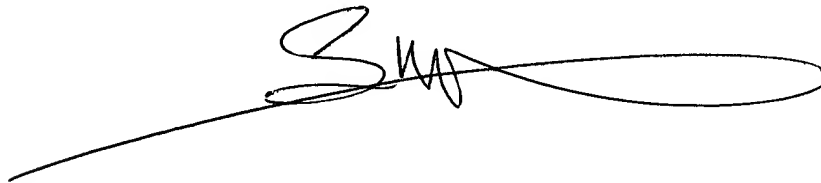
4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kenet et al. (U.S. patent 5,016,173) for classifying features of the surface of an object.

Mitsuyama et al. (U.S. patent 5,768,412) for a image region segmenter and density region analysis.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anand Bhatnagar whose telephone number is (703) 306-5914, whose supervisor is Amelia Au whose number is 703-308-6604, group fax is 703-872-9306, and Tech center 2600 customer service office number is 703-306-0377.

A handwritten signature in black ink, appearing to read 'SAMIR AHMED', with a long horizontal flourish extending to the left.

**SAMIR AHMED
PRIMARY EXAMINER**

Handwritten initials 'AB' in black ink.

Anand Bhatnagar

Art Unit 2623

June 27, 2004